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| 10/789,508 | 02/26/2004 | Michael C. Park | 23627-08902 (IMV-098-C1-U) | 9100 |
| 758 | 7590 | 08/05/2008 | EXAMINER | |
| FENWICK & WEST LLP SILICON VALLEY CENTER 801 CALIFORNIA STREET MOUNTAIN VIEW, CA 94041 | | | BELOUSOV, ANDREY | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2174 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/789,508 | Applicant(s) PARK ET AL. | |
| | Examiner ANDREY BELOUSOV | Art Unit 2174 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the filing of March 19, 2008. Claims 15-24 are pending and have been considered below.

Claim Objections

2. Claims 23 and 24 are objected to because of the following informalities:
 - a. Claim 23 contains a typographical error, the word "or" should be "of".
 - b. Claim 24 omits "the outlined area are manually adjusted" amendment as mentioned in the remarks.
3. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isobe (U.S. Patent No. 5995108) in view of Jacobs et al. (U.S. Patent No. 2003/0011619.)

Claim 15, 24: Isobe discloses an interactive seamer apparatus for seaming two or more single images vertically or horizontally into panoramic images, comprising:

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- a. a user interface (Fig. 6) having a first display area (Fig. 6: 301) for displaying a panoramic image (a comprehensive picture of a given subject) and
- b. a second display area for displaying the two or more single view images projected from the panoramic image (Fig. 6: 321),

However, Isobe does not explicitly disclose wherein,

- c. the two or more single view images having overlapping portions at least partially encompassed by at least one outlined area, each pixel in the overlapping portions encompassed by the outlined area having an opacity value that is determined by the location of the pixel in the outlined area and a predetermined opacity curve; and
- d. an image seamer for seaming the two or more single view images into the panoramic image,
- e. wherein the opacity values of the pixels in the overlapping portions encompassed by the outlined area are manually adjusted by changing the size of the outlined area in the second display area.

Jacobs discloses a similar device for image composition, having

- c. two or more single view images having overlapping portions at least partially encompassed by at least one outlined area (Fig. 3: Blending Polygon Opacity Filter), each pixel in the overlapping portions encompassed by the outlined area having an opacity value that is determined by the location of the pixel in the outlined area and a predetermined opacity curve (Fig 3: "Sum of Light Transmitted through Left and Right Blend Polygon Filters Overlayed); and

- d. an image seamer for seaming the two or more single view images into the panoramic image (Abstract; par 15),
- e. wherein the opacity values of the pixels in the overlapping portions encompassed by the outlined area are adjusted by changing the size of the outlined area in the second display area (Abstract; par. 15.)

However, Jacobs does not explicitly disclose wherein the opacity values are changed manually. The Examiner takes Official Notice that it is old and well known in the arts to accomplish something that is automatic by manual means (See In re Venner, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to manually adjust the opacity values by changing the size of the outlined area. One would have been motivated to adjust the opacity levels manually, as the artifacts produced by incorrect blending may not be readily ascertained by automatic means.

Furthermore, it would have been obvious to one of ordinary skill in the art to use the known technique of using opacity blending as is disclosed in Jacobs to improve the similar device such as disclosed by Isobe in the same way to produce a predictable result.

6. Claims 16-19, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teo (U.S. Patent No. 6,046,399) in view of Isobe et al (U.S. Patent No. 5,995,108.)

Claim 16: Teo discloses an interactive seamer apparatus for seaming two or more single view images vertically or horizontally into panoramic images, comprising:

- a. a user interface having a first display area for displaying a panoramic image generated from a number of single view images (Fig. 4: 400), and
- b. wherein an array of control points (Fig. 4: 410, 430) are superimposed within (2:50) an area (Fig. 4: 420) in the panoramic image corresponding to an interior of the selected single view image for manually warping (8:17-21, “reshaping”) parts of the panoramic image corresponding to the selected single view image by moving the control points, (8:17-39),
- c. the warping being independent of placement or movement of the selected single view image within the panoramic image (8:22-30); and
- d. an image seamer for seaming the selected single view image into the panoramic image based on user specified parameters (Abstract.)

However, Teo does not explicitly disclose,

- a. a second display area for displaying a selected single view image projected from the panoramic image,

Isobe discloses a similar device for panorama seaming, including a

- a. a second display area (Fig. 16: 631) for displaying a selected single view image projected from the panoramic image (Fig. 6: 630.)

It would have been obvious to one of ordinary skill in the art to use the known technique of separate editing window as disclosed by Isobe to improve the similar device such as

disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 17: Teo and Isobe disclose the interactive seamer of claim 16. Isobe further discloses wherein at least one parameter adjusts the focal length of the selected portion of the panoramic image (Fig 16: 634, 635.) It would have been obvious to one of ordinary skill in the art to use the known technique of adjusting focal length as disclosed by Isobe to improve the similar device such as disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 18: Teo and Isobe disclose the interactive seamer of claim 16. Isobe further discloses wherein the user interface includes a third display area for displaying values of parameters (Fig. 16: 638.) It would have been obvious to one of ordinary skill in the art to use the known technique of displaying additional parameters (e.g. in text format) as disclosed by Isobe to improve the similar device such as disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 19: Teo and Isobe disclose the interactive seamer of claim 16. Teo further discloses wherein at least one parameter provides high resolution zoom to enable a user to examine artifacts without requiring a high resolution representation of the entire panoramic image (1:38-44; 2:23-27.)

Claim 21: Teo and Isobe disclose the interactive seamer of claim 16. Isobe further discloses wherein at least one parameter specifies the lay down order of multiple single view images seamed together to form the panoramic image (Fig. 16: 637.) It would have been obvious to one of ordinary skill in the art to use the known technique of having lay down orders (such as in cases of layers) as disclosed by Isobe to improve the similar device such as disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 22: Teo and Isobe disclose the interactive seamer of claim 16. Isobe further discloses wherein the user interface includes multiple view windows for simultaneously showing a perspectively correct view of the selected single view image and a changed view of the single view image (15:5-15.) It would have been obvious to one of ordinary skill in the art to use the known technique of having simultaneous display windows of the same content, but from different perspectives as disclosed by Isobe to improve the similar device such as disclosed by Teo, i.e. panorama editing, in the same way to produce a predictable result.

Claim 23: Teo and Isobe disclose the interactive seamer of claim 16. Teo further discloses wherein the selected single view image with manually induced changes is capable of being repositioned within the panoramic image without disturbing the manually induced changes (8:17-39.)

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teo in view of Isobe et al., and in further view of Cleary et al. (4,470,779.)

Claim 20: Teo and Isobe disclose the interactive seamer of claim 16. However, Teo and Isobe do not disclose wherein at least one parameter specifies an artificial horizon in the panoramic image. Cleary discloses a similar system for panoramic display including specifying an artificial horizon in the panoramic image (Fig. 3A-3C.) Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the known technique of Cleary of an artificial horizon to improve a similar device of panoramic displays of Teo and Isobe with user specified parameters in the same way to obtain a predictable result.

Response to Arguments

8. Applicant's arguments filed March 19, 2008 have been fully considered but they are not persuasive. Applicant's argument that "Jacobs fails to disclose the feature of "the opacity values of the pixels ... are manually adjusted by changing the size of the outlined area in the second display area" as recited in claim 15 and 24, has been fully considered but is not persuasive. Though Jacobs discloses adjusting (par. 15) the opacity levels by changing the width of the polygons (outlined area), Jacobs does not explicitly state whether it is performed manually. However, The Examiner takes Official Notice that it is old and well known in the arts to accomplish something that is automatic

by manual means (See In re Venner, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958).)

9. Applicant's argument that "the dragging points 410 in Teo are neither arranged in an array nor are they placed within the interior of the single view image" has been fully considered but is not persuasive. Claim 16 as recited does not limit that the points are to be arranged in an array, but merely that there is an array ("array" is a term of art in Computer Science that is used to mean a storage structure comprising a plurality of elements) of points, meaning, a plurality of points, a limitation that was already present. Furthermore, Teo discloses, as illustrated in Fig. 4, at least a set of two points (Fig. 4: 410, e.g. top right, bottom right) arranged in an array fashion.

10. The Examiner notes that "seaming two or more single view images vertically or horizontally into panoramic images" was amended into the preamble of the claim with an indication of intended use (See MPEP 2111.02 II, "Preamble statements reciting purpose or intended use".)

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Belousov whose telephone number is (571) 270-1695. The examiner can normally be reached on Mon-Fri (alternate Fri off) EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3800.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P Sax/
Primary Examiner, Art Unit 2174

AB

July 29, 2008